

# THE MONOTYPE DISPLAY TYPE ATTACHMENT

## Directions for Casting Display Type with Schemes for Fonts of Various Sizes

### DIRECTIONS FOR CASTING DISPLAY TYPE

The face of each DISPLAY MATRIX is stamped to indicate the width body on which the character is cast as well as its point-size and series number.

1. The number in the upper left corner is the point size.
  2. The number in the upper right corner is the series or face.
  3. The number in the lower left corner gives the setting for the NORMAL WEDGE b21D1, if the number be starred (\*) the PACKING PIECE 32C1 must be in position (older machines have PACKING PIECE a21D3).
  4. The number in the lower right corner gives the setting for the JUSTIFICATION WEDGE a11D1.
- Exception: The smallest set-size that can be obtained with the DISPLAY WEDGES a11D1 and b21D1, with the Display setting of the MOLD-BLADE-ABUTMENT-SLIDE ADJUSTING SCREW b14C1, is  $2\frac{1}{2}$  points. MATRICES for characters on a body less than  $2\frac{1}{2}$  points in width omit the numbers indicating the WEDGE positions and in their place are stamped the words "SET-SIZE" and in decimals of an inch, the proper set-size body for the character. To obtain set-sizes from  $1\frac{1}{2}$  to 2 points inclusive, screw the ADJUSTING SCREW b14C1 forward one point and use the corresponding WEDGE positions for sizes from  $2\frac{1}{4}$  to 3 points inclusive.

Sort out the MATRICES so that all having the same WEDGE settings are together and cast the font in this order to reduce the adjustment of the WEDGES to a minimum.

On the display COMPOSING MACHINE use GAGE a69D1 for setting the WEDGES. This GAGE is double ended, one end being used for setting the JUSTIFICATION WEDGES and the other end for the NORMAL WEDGE. The reference point for setting this GAGE is the left end of the TRANSFER-WEDGE-OPERATING-ROD-GUIDE CAP 54D1. To use this GAGE the JUSTIFICATION-WEDGE STOP BLOCK 19D must be moved. On the TYPE-&-RULE CASTER no GAGE is required for these WEDGES as they are set to graduations on POSITION PLATES 66D1 and 67D1 respectively.

The front JUSTIFICATION WEDGE 10D must be kept as far to the left as possible, that is in its number fifteen position.

Always have NORMAL WEDGE backed up by the SPACE TRANSFER WEDGE a52D.

To adjust for this, swing the CENTERING-PIN-LEVER GAG BLOCK a140E1E to the rear to engage the TRANSFER-WEDGE-SHIFTER-LEVER-ARM ROD 57D4. If this GAG BLOCK is not on the machine, screw down the BELL-CRANK STOP SCREW 4D3 until the Rod 57D4 is raised by each up-stroke of the CENTERING-PIN LEVER.

The proper LINE STANDARD for each font is given on a label on the end of the box in which the font is shipped.

For Roman fonts, line up the cap H to the LINE STANDARD and center the cap H set-ways on its proper size body.

For italic fonts, line up the cap H to the LINE STANDARD and position the cap H set-ways so that the lower serif will be flush with the cross block side of the type.

If care be used to have the MATRICES and MATRIX HOLDER clean and if the MATRICES be properly clamped in the HOLDER it is not necessary to line up for each character. Before returning a font, lock up one type of each character and take a press proof to test the accuracy with which they have been cast. The alignment of large type need not, of course, be as accurate as for small. An error of .002" in the alignment of thirty-six point type is not noticeable. This allowable error is proportional to the point-size; for fourteen point it should not exceed .0005".

When it is necessary that the body width be absolutely correct (for example, when casting space material), refer to the card "Monotype Display-type Wedges Positions for Casting Type Bodies  $2\frac{1}{4}$  to 36 Points in Width" (form 8036). This table gives the correct WEDGE positions and body size in decimals of an inch for each quarter point size from  $2\frac{1}{4}$  to 36 points inclusive and by interpolation the eighth point sizes may be obtained.

### CAUTIONS

For fonts containing italic kerned characters (that is, a kern on the left side of the type body), the MOLD BLADE operating mechanism may have to be adjusted so that the BLADE does not withdraw until the TYPE CARRIER has moved far enough to the left so that the kern rests on the fixed TYPE BLOCK of the MOLD. If the BLADE draws back too soon there is danger of the fixed TYPE BLOCK shearing off the kern.

Keep the face of the MATRIX and the MATRIX SEATS free from particles of metal, for such particles will drive into the face of the MATRIX and deform it so that it will not draw from the type properly. If the particles cannot be wiped off with a cloth, use a sharpened stick of hardwood and scrape them off; a knife (or any metal scraper) will certainly injure the MATRIX.

### FONT SCHEMES

Font schemes for job fonts are given here. The operator having decided the number of A's required in the font, finds under this number (at the head of the table) the number of the other characters required for a font containing this number of A's.

*Example:* To find the number of lower case h's required for a 27a font, follow down the column headed 27a to the number opposite the letter h; this is nineteen (the number of h's in a 27a font of lower case).

When a font contains both upper and lower case the number of points required will be the sum of those given for the caps and lower case. Thus a 3A font of caps combined

with a 7a font of lower case would have seven periods, two question marks, etc. The number of figures is only given for a cap font. The quantity of figures required depends so much upon the matter for which the font is to be used that it is not possible to give definite rules for casting figures for cap and lower case fonts.

### FONT WEIGHTS (IN OUNCES)

The following table gives the weight, in ounces, of "1A" (or "1a") fonts of type one-point deep and one-set wide. Of course, no such font of type ever existed, but starting with the weight of this theoretical font as unity, it is easy to obtain the approximate weight of any size "A" (or "a") font of any point size and any set size. Or if the weight of a desired font is known, the number of "A" (or "a") font required to give that weight can be calculated. Owing to varying conditions the actual weights or size fonts may vary as much as ten per cent from the calculation.

#### "1A" (or "1a") FONT OF 1 POINT AND 1 SET

Font	Weight Factor
Caps.....	.00900 oz.
Lower case.....	.00600 oz.
Points for Caps.....	.00086 oz.
Points for Lower Case.....	.00044 oz.
Figures for Caps.....	.00122 oz.
Complete Font (72 characters).....	.01752 oz.

Note: Weights must be in ounces in all calculations. The following rules and the examples illustrating them will make clear the use of the above table.

*Rule I.* To find the weight of a given number of "A" (or "a") font: Multiply together the number of "A" (or "a") font, its point size, its set size, and its weight factor. The product will be the weight desired (in ounces).

*EXAMPLE A:* Find the weight of a "40A" font of 6 point 7 set.

The weight factor of a Cap font is .009 as given on the first line of the table. Multiplying together the number of "A" font (40), the point size (6), the set size (7) and the weight factor (.009 oz.) gives 15.12 ounces ( $40 \times 6 \times 7 \times .009 \text{ oz.} = 15.12 \text{ oz.}$ ). Therefore the weight of this "40A" font would be 15.12 ounces, or practically 15 ounces.

*Rule II.* To find the number of "A" (or "a") font required to give a certain weight: Multiply together the point size, set size, and weight factor of the font to be cast. Divide the desired weight of the font (in ounces) by the above product and the quotient will be the number of "A" (or "a") font required.

*EXAMPLE B:* Find the number of "a" font of lower case which will make a 5-pound font in 8 point  $8\frac{1}{2}$  set.

The weight factor of "Lower Case" is .006 as given in the table. Multiplying together the point size (8), the set size ( $8\frac{1}{2}$ ) and the weight factor (.006) gives .408, thus ( $8 \times 8\frac{1}{2} \times .006 = .408$ ). Dividing the desired weight in ounces (80) by the above product (.408) gives 196, thus ( $80 \div .408 = 196$ ). Therefore a "196a" font of 8 point  $8\frac{1}{2}$  set lower case will weigh 5 pounds. As the "196a" font is not given in the tables, use 4 times the "49a" font ( $4 \times 49 = 196$ ).

### NON-DISTRIBUTION SCHEME

In filling cases for Non-Distribution service font proportions need not be observed rigidly, because the source of supply is so convenient that troublesome delays in refilling are not en-

countered. It is often desirable to follow a simple scheme that will result in a weight very near to that required, and for this purpose one has been worked out, based upon the approximation that four square inches of Monotype type weigh one pound.

Font proportions were figured, not in number of characters, but in number of lines, so that the total of the lines (covering all characters) is 144. Thus, a column of 6-point, 6 picas wide and 144 lines deep, weighs 3 pounds; of 8-point, 6 picas wide and 144 lines deep, 4 pounds; of 10-point, 6 picas wide and 144 lines deep, 5 pounds; of 12-point, 6 picas wide and 144 lines deep, 6 pounds. The scheme in detail is as follows:

No. Lines	Char-acter	No. Lines	Char-acter	No. Lines	Char-acter
2.....	A	4.....	a	1.....	2
1.....	B	2.....	b	1.....	3
2.....	C	4.....	c	1.....	4
2.....	D	4.....	d	1.....	5
3.....	E	6.....	e	1.....	6
1.....	F	2.....	f	1.....	7
1.....	G	2.....	g	1.....	8
2.....	H	4.....	h	1.....	9
2.....	I	4.....	i	1.....	\$
1.....	J	1.....	j	1.....	
1.....	K	1.....	k	2.....	
1.....	L	2.....	l	1.....	-
2.....	M	4.....	m	1.....	:
2.....	N	4.....	n	1.....	:
2.....	O	4.....	o	$\frac{1}{2}$ .....	
1.....	P	2.....	p	$\frac{1}{2}$ .....	?
1.....	Q	1.....	q	1.....	.
2.....	R	4.....	r	1.....	ff
2.....	S	4.....	s	1.....	ff
2.....	T	4.....	t	1.....	ff
2.....	U	4.....	u	1.....	ff
1.....	V	2.....	v	1.....	ff
1.....	W	2.....	w	1.....	—
1.....	X	1.....	x	$\frac{1}{2}$ .....	
1.....	Y	2.....	y	$\frac{1}{2}$ .....	
1.....	Z	1.....	z	$\frac{1}{2}$ .....	(
1.....	&	$\frac{1}{2}$ .....	0	$\frac{1}{2}$ .....	)
		$\frac{1}{2}$ .....	1		

Thus, if a 15-pound font of 6-point should be ordered, the ribbon would be set 30 picas wide (or 15 picas wide and cast twice) because this would be a font five times as large as the basic font, which in 6-point weighs three pounds. In like manner fonts in any size may be calculated by increasing the measure of the ribbon to be set.

*This scheme should be used only in Non-Distribution service.*



3	a	4	5	6	7	8	9	10	11	12	13	14	15		16	17	18	19	20	21	22	23	24	25	26	27	28		29	30	31	32	33	34	35	36	37	38	39	40	41		42	43	44	45	46	47	48	49	50	51	52	53	54
3	a	4	5	6	7	8	9	10	11	12	13	14	15	a	16	17	18	19	20	21	22	23	24	25	26	27	28	a	29	30	31	32	33	34	35	36	37	38	39	40	41	a	42	43	44	45	46	47	48	49	50	51	52	53	54
2	2	2	3	3	3	4	4	5	5	5	6	6	b	7	7	8	8	8	9	9	10	10	11	11	11	b	12	12	13	13	14	14	14	15	15	15	16	16	16	17	b	17	17	17	18	18	19	20	20	20	21	22	22	22	
2	2	3	4	4	5	5	6	6	7	7	8	8	c	9	9	10	10	11	11	12	12	13	13	14	15	15	c	16	16	17	17	18	18	19	19	20	20	21	21	22	c	22	23	23	24	25	26	26	26	27	28	29	30		
2	3	3	4	4	5	6	7	8	8	9	9	d	10	11	11	12	12	13	13	14	14	15	16	17	17	d	18	19	19	20	20	21	22	23	23	24	24	25	25	26	d	26	26	27	28	29	29	30	30	31	32	33	34		
4	5	6	8	9	10	12	13	14	16	17	19	20	e	21	23	24	25	27	28	29	30	32	33	35	36	37	e	38	40	41	43	44	45	47	48	49	51	52	53	54	e	56	57	59	60	61	62	64	65	66	68	70	71	74	
2	2	3	4	4	5	6	6	7	7	8	8	f	9	9	10	10	11	11	12	12	13	13	14	15	15	f	16	16	17	17	18	18	19	19	20	20	21	21	22	f	22	23	23	24	25	26	26	26	27	28	29	30			
2	2	2	3	3	3	4	4	5	5	6	6	g	7	7	8	8	8	9	9	10	10	10	11	11	11	g	12	12	13	13	14	14	14	15	15	15	16	16	17	g	17	17	17	18	18	19	20	20	20	21	22	22	22		
2	3	4	4	5	5	6	7	8	8	9	9	h	11	12	12	13	13	14	15	16	16	17	18	19	19	h	20	20	21	21	22	22	23	24	25	25	26	27	28	h	28	29	29	30	31	32	32	33	34	35	36	37	38		
3	4	5	6	7	8	9	10	11	12	13	14	15	i	16	17	18	19	20	21	22	23	24	25	26	27	28	i	29	30	31	32	33	34	35	36	37	38	39	40	41	i	42	43	44	45	46	47	48	49	50	51	52	53	54	
2	2	2	2	3	3	3	4	4	4	5	5	j	5	6	6	6	6	7	7	7	7	7	8	8	8	j	8	8	9	9	9	9	9	9	9	9	10	10	10	j	10	10	10	11	11	11	14	14	14	15	16	16	16		
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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54									
A	A	A	A	A	A	A	A	A	A	A	A	A	A	A		A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A							
2	2	2	2	2	2	3	3	3	3	4	4	4	4	4	\$	4	5	5	5	6	6	6	6	6	7	7	7	8	\$	8	8	9	9	9	9	9	10	10	10	10	10	10	10	10	11	\$	11	11	11	12	12	12	12	12	12	12	12	12	12			
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3	4	5	6	7	8	9	10	11	12	13	14	15	A	16	17	18	19	20	21	22	23	24	25	26	27	28	A	29	30	31	32	33	34	35	36	37	38	39	40	41	A	42	43	44	45	46	47	48	49	50	51	52	53	54	
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2	3	4	4	5	5	6	7	7	8	9	9	10	C	11	12	12	13	13	14	15	16	16	17	18	19	19	C	20	20	21	21	22	22	23	24	25	25	26	27	28	28	C	28	29	29	30	31	32	32	33	34	35	36	37	38
2	2	3	4	4	5	5	6	7	7	8	8	8	D	9	10	10	11	11	12	12	13	13	13	14	15	15	D	16	16	17	17	18	18	19	19	20	20	21	21	22	22	D	22	23	23	24	25	26	26	26	27	28	30	30	34
4	5	6	8	9	10	11	12	13	14	16	17	18	E	19	21	22	23	24	26	27	28	29	30	32	33	34	E	35	36	38	39	40	41	42	43	45	46	47	48	50	E	51	52	53	54	55	57	58	59	60	62	64	65	66	
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2	2	3	4	4	5	5	6	7	7	8	8	8	H	9	10	10	11	11	12	12	13	13	13	14	15	15	H	16	16	17	17	18	18	19	19	20	20	21	21	22	H	22	23	23	24	25	26	26	26	27	28	29	30		
3	4	5	6	7	8	9	10	11	12	13	14	15	I	16	17	18	19	20	21	22	23	24	25	26	27	28	I	29	30	31	32	33	34	35	36	37	38	39	40	41	I	42	43	44	45	46	47	48	49	50	51	52	53	54	
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a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a					
2	2	3	4	4	5	5	6	6	7	7	8	8	.	9	9	10	10	11	11	12	12	13	13	14	14	15	.	15	16	16	17	17	18	18	19	19	20	20	21	21	.	22	22	23	23	24	24	25	25	26	26	27	27	28	28	29	30
2	2	3	4	4	5	5	6	6	7	7	8	8	,	9	9	10	10	11	11	12	12	13	13	14	14	15	,	15	16	16	17	17	18	18	19	19	20	20	21	21	22	,	22	23	24	25	25	26	26	26	26	27	28	28	29	30	
1	1	1	1	2	2	2	2	2	3	3	3	3	-	3	3	3	3	3	3	4	4	4	4	4	4	4	-	4	4	4	5	5	5	5	5	5	5	5	5	-	5	5	5	6	6	6	8	8	8	8	8	8	8	8			
1	1	1	1	2	2	2	2	3	3	3	3	3	4	'	4	4	4	4	4	5	5	5	5	5	5	5	'	5	6	6	6	6	6	6	6	6	6	7	7	'	7	7	7	7	8	8	10	10	10	10	10	10					
1	1	1	1	1	1	1	1	1	2	2	2	2	;	2	2	2	2	2	3	3	3	3	3	3	3	;	3	3	3	3	3	3	3	3	3	3	3	3	;	3	3	3	4	4	4	6	6	6	6	6	6	6	6				
1	1	1	1	1	1	1	1	1	1	2	2	2	!	2	2	2	2	2	3	3	3	3	3	3	3	!	3	3	3	3	3	3	3	3	3	3	3	!	3	3	3	4	4	4	6	6	6	6	6	6	6	6					
1	1	1	1	1	1	1	1	1	1	2	2	2	?	2	2	2	2	2	3	3	3	3	3	3	3	?	3	3	3	3	3	3	3	3	3	3	3	?	3	3	3	4	4	4	6	6	6	6	6	6	6	6					
3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54						
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